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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,544	07/01/2005	Patrick Golden	758.1491USWO	9289
23552 7590 12/01/2009 MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903				
EXAMINER				
CHRISTIAN, MARJORIE ELLEN				
ART UNIT		PAPER NUMBER		
1797				
MAIL DATE		DELIVERY MODE		
12/01/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/520,544

**Applicant(s)**

GOLDEN ET AL.

**Examiner**

MARJORIE CHRISTIAN

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 37-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/C)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

## DETAILED ACTION

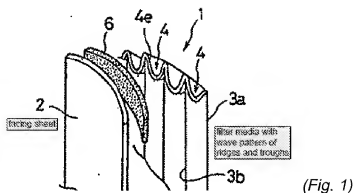
### *Response to Amendment*

1. The amendment filed 8/18/9 has been entered and fully considered.
2. The objections to the claims have been removed in view of the applicant's amendments.
3. **Claims 37-47** are pending and have been fully considered.

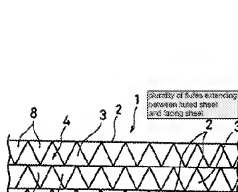
### *Claim Rejections - 35 USC § 102*

4. **Claims 37-42, 44-47** are rejected under 35 U.S.C. 102(b) as being anticipated by JP1171615, KADOYA et al..

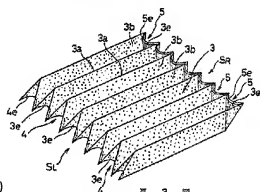
As to **Claim 37**, KADOYA discloses a fluted filter media construction (Figs. 1, 3-4 comprising: fluted sheet of filter media (see Figs. 1, 3-4 below); facing sheet of filter media (Fig. 1, 4, Ref. 2) adhered to the fluted sheet forming a plurality of flutes (3); the plurality of flutes extending between the fluted sheet and the facing sheet comprises a regular fold arrangement (4), sealing the plurality of flutes to the passage of unfiltered air (Pg. 9, Para. 2), and it appears that the regular fold arrangement (Fig. 1, 3) comprises an inverted ridge with a remaining portion folded against the inverted ridge (Fig. 3, Pg. 7-Pg. 8),



(Fig. 1)



(4)

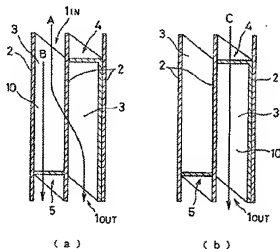


(3)

As to **Claim 38**, KADOYA discloses the adhesive adheres the first layer to the facing media and the second layer to the first layer (Pg. 8, Para. 1).

folding parts 4,5 as indicated in Figure 1 and Figure 2,  
 flat filter mediums 2,2 which are reciprocal and adjacent  
 to corrugated filter medium 3 are such that a sealing part  
 7 is formed by joining using bonding agent 6. This sealing  
 part 7 is formed when end surfaces 4e, 5e of folding parts  
 4,5 of corrugated filter medium 3 and the surface 2a which  
 is opposite the flat filter medium 2 adhere closely to one  
 another.

As to **Claim 39**, KADOYA discloses the plurality of flutes extend from a first face to a second face, and the fold arrangement is provided at one of the first face or the second face (Fig. 5).



As to **Claim 40**, KADOYA discloses the fluted sheet and the facing sheet are coiled into a coiled media structure (Fig. 6, 7).

As to **Claim 41**, KADOYA discloses the coiled media structure (Fig. 6-7) comprises the plurality of flutes having a regular fold arrangement sealing the plurality of flutes to the passage of unfiltered air (Fig. 3, Ref. 4, 5). KADOYA also discloses using a sealing packing material for flutes (Fig. 12, Ref. 23), where it is implicit that one end is packed using the packing sealing material to seal the flutes to the passage of air, absent evidence to the contrary.

As to **Claim 42**, KADOYA discloses the fluted sheet of filter media comprises a regular, curved, wave pattern of flutes (Fig. 3).

As to **Claims 44-45**, KADOYA discloses the fluted sheet and the facing sheet are positioned in a filter to define a set of inlet flutes and a set of outlet flutes extending

between an inlet face and an outlet face (Fig. 5); each inlet flute being closed (5) to passage of unfiltered fluid there through, adjacent said outlet face (1out); and each outlet flute being closed (4) to passage of unfiltered fluid therein, adjacent said inlet face (1in); the inlet flute closed by the regular fold arrangement (Fig. 3, Ref. 4, 5).

As to **Claim 46**, KADOYA discloses the inverted ridge is a result of inverting the ridge of the fluted sheet at its apex (Fig. 1, 4, 4e, Pg. 8, Para. 1).

As to **Claim 47**, it is implicit that the regular fold arrangement is provided as a result of a mid web-folding process, absent evidence to the contrary. Further, providing the regular fold arrangement by mid web-folding process does not structurally differentiate the folds from other processes of creating regular fold arrangements. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997).

#### ***Claim Rejections - 35 USC § 103***

5. **Claims 43** is rejected under 35 USC 103 (a) as being obvious over JP1171615, KADOYA et al. in view of US Patent No. 5,435,958, DINNAGE et al..

As to **Claim 43**, KADOYA discloses the fluted filter media comprising a fluted sheet with a pattern of ridges and troughs. KADOYA does not appear to explicitly disclose the flute to flat ratio in the fluted sheet. However, at the time of the invention it would be obvious to a person having ordinary skill in the art to optimize the flute to flat

ratio in the fluted sheet membrane to improve the filtration efficiency of the filter media, as disclosed by DINNAGE. DINNAGE discloses a fluted filter media (Fig. 1) with a flute height/ pitch ratio of about 0.2 to 2.0 (C2/L49-54) to enhance efficiency, which encompasses the instant range disclosed. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

### ***Response to Arguments***

6. Applicant's arguments filed 8/18/2009 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, specifically, that the end portions are folded against each other. This is not found persuasive. It appears that KADOYA does disclose the claimed feature as shown in the rejection of Claim 1 (cited pages 7-8) of KADOYA. For the purposes of clarification, KADOYA discloses that the folded part (4 or 5) comes into contact with the rest of the adjacent membrane; one side of the folded part (first layer) is the inverted layer, and the second layer is the other side, the ridge is folded at the corners thereby being folded against the first layer. Applicant's argument that the ridge has an additional fold is not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARJORIE CHRISTIAN whose telephone number is (571)270-5544. The examiner can normally be reached on Monday through Thursday 7-5pm (Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Krishnan S Menon/  
Primary Examiner, Art Unit 1797

MC